WATER SUPPLY OUTLOOK FOR WASHINGTON

Prepared by

U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Collaborating with

DEPARTMENT OF ECOLOGY STATE OF WASHINGTON

Data included in this report were obtained by the agencies named above in cooperation with the U.S. Forest Service, U.S. Geological Survey, National Park Service, and other Federal, State and Private organizations.

AS OF
JUNE 1, 1973

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 209, 511 N. W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	204 E. 5th. Ave., Room 217, Anchorage, Alaska 99501
Arizona	6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 970, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84111
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82601

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia

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WATER SUPPLY OUTLOOK FOR WASHINGTON

and

FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

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WATER SUPPLY OUTLOOK

State of Washington
June 1, 1973

* *

* The water supply picture in the State of Washington and tributary basins has gone from bad to worse. Forecasts made last month will probably not be realized unless there is a dramatic change in the weather patterns and the National Weather Service's thirty day outlook does not indicate that this will occur. At the present time the only snow left in the watersheds is at the high elevations and in the exceeding north portion of the Columbia Basin in Canada. The snow, for all practical purposes, is gone from Washington without any significant runoff occuring. Admittedly, there are very few snow courses measured on May 15 and even fewer on the first of June, but those that were measured indicate near record low snow packs. Only 1963 had less snow, but in that year there was a significant amount of precipitation measured during May. Runoff during the month was all well below normal, as was precipitation. The only redeeming factor in the precipitation story was that it was not as poor as measured during April. The reservoir story is also generally below normal, with only two small reservoirs in the Okanogan Drainage Basin having above normal amounts of water in storage as of June 1, and the power reservoir, Ross, in the Skagit Drainage indicating slightly more than normal amounts of water in storage. *

* *

SNOW COVER

Of the few snow courses that were measured on June 1 that had measureable amounts of snow, the following gives the comparison to average. Pend Oreille - the snow pack as of June 1 is 35% of 1972, 40% of 1971 and 47% of long term normal. In the Kettle River Drainage, the high elevation snow courses indicate the snow cover to be 58% of last year, 80% of 1971 and 85% of normal. A very poor snow pack lies in the Spokane River Drainage, 17% of last year and 23% of 1971. In the Okanogan River Drainage, the snow cover is 35% of last year and 62% of 1971 and average. The only other snow course, Stevens Pass, lies on the pass between the Wenatchee River and the Skykomish. This snow course indicates the snow cover in that area to be 12% of last year, 16% of 1971 and 30% of average.

RESERVOIRS

As mentioned above, most reservoirs have less than normal amounts of water in storage as of June 1. The situation in the Yakima Basin is that it is expected that none of the five reservoirs will fill with the spring runoff. The power reservoirs such as Franklin D. Roosevelt and Ross Reservoir could fill with the expected runoff, but power demands might hold these reservoirs down. Some reservoirs, such as Chelan, will probably be filled to satisfy recreational needs of the area at the expense of power production.

PRECIPITATION

During the month of May, rainfall was normal or above on the west slopes of the Cascades and very near normal in the Columbia portion of the basin in Canada. The other drainage divisions, as reported by the National Weather Service, had much better rainfall than has been measured the last three months, with only the north central portion of the state reporting near 50% of average. In spite of the rains during May, the deficit of the previous months is in no way made up and winter and spring rainfall has all been well below average.

STREAMFLOW

Forecasts of streamflow are not made by the Soil Conservation Service for any streams as of June 1. If they were made, it is expected that the forecasts would be lowered percentagewise from that reported last month. Runoff during the month was all well below normal with the Columbia River at Birchbank having the greatest amount of runoff - percentagewise - 93%. The low basin, and one that is critically short of water in the hills, is in the Blue Mountains. The Walla Walla River measured at Touchet at only 16% normal runoff during May. It was expected that the Palouse River would have less water due to the lack of snow packs in the Moscow mountains, but the flow of this river was 25% of normal. At Kiona, the flow of the Yakima River as corrected for storage and diversions was only 20% of normal and the Spokane at Post Falls, also corrected for storage, was 35%. Indications are that many streams such as the Spokane will have the lowest runoff of record unless well above normal precipitation occurs in the very near future.

RESERVOIR STORAGE - 1000 Feet

BASIN or STREAM	RESERVOIR	USABLE 1/ CAPACITY	(Measured - June) 1973	1972	1971	Normal*
		COLUMBIA				
Spokane	Coeur d'Alene Lake	225.1	218.9	467.2	387.6	327.0
Columbia	Franklin D. Roosevelt Lake	5232.0	1808.5	1722.0	2703.6	3965.2
Columbia	Banks Lake	761.8	112.2	381.3	517.7	435.3
Okanogan	Conconully Reservoir	13.0	10.4	12.1	12.0	9.8
Okanogan	Salmon Lake	10.5	10.1	10.5	7.8	9.6
Chelan	Lake Chelan	676.1	436.7	481.3	461.4	467.6
		YAKIMA				
Yakima	Keechelus Lake	157.8	122.9	138.2	143.0	144.8
Kaches	Kachess Lake	239.0	173.1	209.8	222.2	228.9
Cle Elum	Lake Cle Elum	436.9	337.2	319.1	378.1	395.8
Bumping	Bumping Lake	33.7	27.8	31.0	17.5	30.6
Tieton	Rimrock Lake	198.0	131.8	129.3	146.3	180.4
		PUGET SOUND				
Skagit	Ross Reservoir	1202.0	1056.3	1315.6	1323.1	1000.5
Skagit	Diablo Reservoir	90.6	87.9	88.9	87.8	84.1
Skagit	Gorge Reservoir	9.8	8.1	8.7	8.4	---

1/ Based on Active Storage
* 15-year average 1953-67

SOIL MOISTURE - JUNE

Drainage Basin and Station	Number	Elev.	Profile Depth	(Inches) Total Capacity	Soil Moisture Content (Inches) as of June 1 1973	1972	1971
CRAB CREEK							
Jack Woods	18B3m	2750	48	13.6	7.7	10.2	9.6
Krause	18B4m	2420	48	13.6	8.7	9.0	8.7
Sheffels	18B5m	2380	48	13.6	8.3	9.9	9.1
Sherman	18B7m	2440	48	13.6	7.2	9.1	8.2
Wheatridge	18B6m	2290	48	13.6	6.0	10.0	--
OKANOGAN							
Salmon Meadows	19A2M	4500	48	5.4	3.7	3.7	3.6
Trout Creek	3-M	3600	48	7.3	Late Report	5.4	4.5
YAKIMA							
Domery Flat	21B20m	2200	48	6.9	Late Report	4.5	4.5
Lake Cle Elum	21B14M	2200	48	12.8	Late Report	9.2	9.2
WALLA WALLA							
Couse	17C3m	3650	48	11.1	Late Report	10.2	9.8
Helmers	17C2M	4400	48	12.0	Late Report	10.9	10.1
WENATCHEE							
Upper Wheeler	20B7M	4400	48	12.7	9.0	9.8	9.9

FALL SOIL MOISTURE

Drainage Basin and Station	Number	Elev.	Profile Depth	(Inches) Total Capacity	Soil Moisture Content (Inches) as of Oct. 1 1972	1971	1970
CRAB CREEK							
Jack Woods	18B3m	2750	48	13.6	5.6	5.3	7.0
Krause	18B4m	2420	48	13.6	6.2	5.0	4.4
Sheffels	18B5m	2380	48	13.6	6.5	5.3	4.4
Sherman	18B7m	2440	48	13.6	4.6	4.0	3.8
Wheatridge	18B6m	2290	48	13.6	6.2	5.5	7.8
OKANOGAN							
Salmon Meadows	19A02M	4500	48	5.4	2.8	2.7	1.7
Trout Creek	3-M	3600	48	7.3	3.3	3.3	3.4*
YAKIMA							
Domery Flat	21B20m	2200	48	6.9	4.1	2.1	2.4
Lake Cle Elum	21B14M	2200	48	12.8	8.7	7.1	7.6
WALLA WALLA							
Couse	17C3m	3650	48	11.1	6.0	6.2	5.9
Helmers	17C2M	4400	48	12.0	7.7	8.2	7.3
WENATCHEE							
Upper Wheeler	20B7M	4400	48	12.7	5.7	6.5	5.1

* November 1 measurement

PRECIPITATION 1/

Division Averages and Departures

Drainage Divisions	FALL Sept-Oct 1972 2/ Observed	Departure	WINTER Nov. '72-Mar.'73 2/ Observed	Departure	SPRING April-May '73 2/ Observed	Departure
Columbia in Canada	4.15	+ 0.26	9.74	- 2.95	2.73	- 0.41
Pend Oreille - Spokane	2.68	- 1.20	13.23	- 5.02	3.04	- 1.60
Northeastern Washington	2.16	- 0.09	8.58	- 2.51	2.28	- 1.04
Southeastern Washington	2.35	- 0.30	10.01	- 2.40	2.47	- 1.14
Central Washington	3.48	- 0.96	18.98	- 8.15	1.44	- 1.99
North Central Washington	1.04	- 0.37	4.70	- 1.64	0.74	- 1.06
Northwest Slope Cascades	10.41	- 1.26	39.43	-12.71	6.74	- 2.89
Southwest Slope Cascades	6.56	- 1.16	29.75	-11.12	5.09	- 1.95

Northeastern Washington - Lower Spokane, Colville, Sanpoil and lower Kettle drainages.

Southeastern Washington - Touchet, Tucannon and Palouse drainages.

Central Washington - Yakima, Wenatchee and Chelan drainages.

North Central Washington - Methow and Okanogan drainages.

Northwest Slope Cascades - Puget Sound drainages.

Southwest Slope Cascades - Lower Columbia drainages.

1/ - Preliminary analysis by National Weather Service from data furnished by Meteorological Services of Canada and National Weather Service.

2/ - Departure from 15-year (1953-67) drainage division average.

APPENDIX 1
CORRECTIONS AND ADDITIONS - 1973 SNOW REPORTS

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average #
February 1							
LEWIS RIVER							
Mosquito Meadows	21C19	4100	2/1	53	15.4	49.9	28.8
Surprise Lakes	21C13A	4250	1/3	38	10.8	35.0	18.5
COWLITZ RIVER							
Pigtail Peak	31C33	5900	12/29	61	22.5	37.2	26.0
White Pass (L. Lake)	21C27	4500	12/29	17	5.7	18.9	13.3
NISQUALLY RIVER							
Stem Glade	21C01	5050	12/28	68	20.4	40.7	24.8
GREEN RIVER							
Lynn Lake	21B50	4000	12/29	15	3.2	23.5	- -
SKAGIT RIVER							
Thunder Basin	20A07	4200	1/27	42	11.2	27.4	- -
BAKER RIVER							
Rocky Creek	21A12A	2100	1/26	48	21.0	44.5	19.6
SKOKOMISH RIVER							
Black & White	23B07	4200	1/3	43	12.8	24.2	- -
March 1							
COWLITZ RIVER							
Packwood Lake	21C31	2870	2/27	5	2.0	30.1	12.0
CEDAR RIVER							
Mt. Washington New	21B52	3000	2/26	0	0.0	New Course	
SNOQUALMIE RIVER							
S. F. Tolt	21B18	1900	2/26	0	0.0	6.8	- -

Average based on 1953-67 average

USDA-SCS-PORTLAND, OREGON 1973-

APPENDIX 2

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches) Last Year	Water Content (inches) Average#
March 1 (Cont.)							
BAKER RIVER							
Dock Butte	21A11A	3800	3/6	120	45.6	99.4	65.3
Easy Pass	21A07A	5200	3/6	110	41.8	114.7	82.1
Jasper Pass	21A06A	5400	3/6	158	60.0	125.5	87.3
Marten Lake	21A09A	3600	3/6	120	45.6	114.3	73.3
Mt. Blum +	21A18a	5800	3/6	125	47.5	-	-
Rocky Creek	21A12A	2100	3/6	30	11.4	53.1	23.3
Schreibers Meadow	21A10A	3400	3/6	72	27.4	79.2	58.1
S. F. Thunder Cr.	21A14A	2200	3/6	0	0.0	42.3	4.5
Watson Lakes	21A08A	4500	3/6	96	36.5	97.2	61.3
April 1							
GREEN RIVER							
Grass Mtn. No. 3	21B28	2100	3/29	0	0.0	8.1	-
CEDAR RIVER							
Mt. Lindsay	21B16	2500	3/29	15	5.7	24.1	17.7
Mt. Washington New	21B52	3000	3/30	0	0.0	New Course	
Rex River	21B17	2400	3/29	14	4.8	28.5	19.8

Average based on 1953-67 average
\+ Snow water equivalent estimated from aerial stadia observation

USDA-SCS-PORTLAND, OREGON 1973-

APPENDIX 3
SNOW DATA TO JUNE 1, 1973

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
						Water Content (inches)	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Last Year	Average #
U P P E R C O L U M B I A D R A I N A G E							
PEND OREILLE RIVER							
Baree Creek	15B11	5500	5/15	43	22.0	61.2	43.4
Baree Midway	15B16	4600	5/15	17	8.0	37.6	26.8
Baree Trail	15B15	3800	5/15	0	0.0	0.0	0.0
Heart Lake Trail	14C10	4800	5/15	0	0.0	26.2	- -
Hoodoo Basin	15C10	6000	5/15	61	29.1	83.4	- -
			5/29	33	15.8	63.4	- -
Hoodoo Creek	15C01	5900	5/15	59	28.0	79.2	42.5
			5/29	32	15.0	61.4	32.0
Lookout	15B02	5250	5/15	21	9.2	47.0	28.4
			5/30	0	0.0	25.3	- -
Nelson	19-Can	3050	5/14	0	0.0	2.4	0.8*
Schweitzer Bowl	16A06	4500	5/29	0	0.0	0.0	- -
Schweitzer Ridge	16A05	6100	5/29	38	19.2	34.8	- -
KETTLE RIVER							
Big White Mtn.	154-Can	5500	Not Measured			23.4	17.6*
			5/30	18	8.2	11.5	9.3*
Monashee Pass	48A-Can	4500	5/17	8	1.6	14.0	9.7
			5/31	0	0.0	5.1	2.1
Old Glory Mtn.	42-Can	7000	5/12	65	25.9	33.6	28.8*
			5/31	29	14.0	31.1	16.8*
SPOKANE RIVER							
Granite Peak	15B13A	6000	5/29	20	10.1	57.4	- -
Lookout	15B02	5250	5/15	21	9.2	47.0	- -
			5/30	0	0.0	25.3	- -
Lost Lake	15B14A	6000	5/29	28	13.1	83.0	- -
Medicine Ridge	15B04A	6150	5/29	21	10.6	61.0	- -
OKANOGAN RIVER							
Blackwall Peak	100-Can	6250	5/14	47	24.4	61.0	38.7*
			5/31	23	12.4	49.8	30.4*
Bouleau Lake	234-Can	4580	5/13	24	6.8	- -	- -
			5/27	0	0.0	4.4	- -

\# Average based on 1953-67 average
* Average for years of record

USDA-SCS-PORTLAND, OREGON 1973-

APPENDIX 4
SNOW DATA TO JUNE 1, 1973

SNOW

DRAINAGE BASIN and/or SNOW COURSE NAME	Number	Elevation	THIS YEAR Date of Survey	Snow Depth (Inches)	Water Content (Inches)	PAST RECORD Water Content (inches) Last Year	Average#
OKANOGAN RIVER (Cont.)							
Brenda Mine	193-Can	4800	5/10	0	0.0	14.5	- -
Brookmere	27-Can	3200	5/15	0	0.0	8.2	3.5*
Enderby	130-Can	6250	5/11	103	41.3e	55.6	45.6*
			5/30	76	31.6	48.9	40.9*
Graystoke Lake	5-Can	5950	5/15	Not Measured		28.5	23.4*
			5/29	18	8.2	23.0	19.0*
Hamilton Hill	107-Can	4900	5/13	0	0.0	- -	7.1*
Isintok Lake	152-Can	5510	5/12	10	3.8	15.2	5.0*
Lost Horse Mountain	105-Can	6300	5/16	14	4.3	22.7	10.8*
			6/1	Not Measured		11.3	4.2*
McCulloch	4-Can	4200	5/13	0	0.0	1.3	0.6*
Missequla Mountain	106-Can	5100	5/14	0	0.0	- -	2.1
Mission Creek	5A-Can	6000	5/12	44	17.2	27.4	19.2*
			5/29	22	7.8	21.7	11.5*
Monashee Pass	48A-Can	4500	5/17	8	1.6	14.0	9.7*
			5/31	0	0.0	5.1	2.1
Mount Kobau	156-Can	5950	5/15	13	4.2	17.0	11.0*
			6/1	0	0.0	5.4	2.2
Silver Star Mountain	99-Can	6050	5/13	52	23.4	40.0	26.2*
			5/27	28	12.5	32.6	15.7*
Summerland Reservoir	3A-Can	4200	5/12	0	0.0	8.6	3.1*
Trout Creek	3-Can	4700	5/15	0	0.0	12.1	1.8*
White Rocks Mountain	70-Can	6000	5/11	39	15.9	32.5	- -
			5/30	6	2.7	22.1	- -
ENTIAT RIVER							
Blue Creek G. S. +	20B28a	5425	5/17	28	14.0	- -	- -
Entiat Meadows +	20A33a	4800	5/17	30	15.0	49.8	33.8
			6/1	Not Measured		42.0	- -
Entiat River Trail +	20A34a	3150	5/17	0	0.0	0.0	- -
			6/1	Not Measured		0.0	- -
Four Mile Ridge +	20B27a	7000	5/17	24	12.0	54.1	- -
			6/1	Not Measured		36.0	- -
Fox Camp +	20A36a	6510	5/17	64	32.0	82.7	- -
			6/1	Not Measured		73.2	- -
Pope Ridge	20B20	4300	5/15	Not Measured		3.3	- -

\# Average based on 1953-67 average
* Average for years of record
\+ Snow water equivalent estimated from aerial stadia observation

USDA-SCS-PORTLAND, OREGON 1973-

APPENDIX 5
SNOW DATA TO JUNE 1, 1973

SNOW

DRAINAGE BASIN and/or SNOW COURSE NAME	Number	Elevation	THIS YEAR Date of Survey	Snow Depth (Inches)	Water Content (Inches)	PAST RECORD Water Content (Inches) Last Year	Average#
ENTIAT RIVER (Cont.)							
Pugh Ridge +	20A32a	6400	5/17	34	17.0	53.5	- -
			6/1	Not Measured		45.0	- -
Shady Pass	20A37	5000	5/15	Not Measured		45.5	- -
			6/1	Not Measured		27.0	- -
Snow Brushy +	20A35a	3850	5/17	0	0.0	31.8	19.9
			6/1	Not Measured		18.0	- -
Tommy Creek +	20B21a	5300	5/17	0	0.0	13.8	9.2
			6/1	Not Measured		8.0	- -
WENATCHEE RIVER							
Leavenworth R. S.	20B17	1127	5/10	0	0.0	0.0	0.0
Stevens Pass	21B01	4070	5/14	57	25.1	80.1	46.6
			5/31	20	9.4	75.9	31.2
Stevens Pass Sand Shed	21B45	3700	5/14	9	4.3	42.5	- -
			5/31	0	0.0	32.8	- -
YAKIMA RIVER							
Stampede Pass SP	21B10	3860	5/16	-	10.4	45.0	34.8
			6/1	-	0.0	43.6	18.5
PUGET SOUND DRAINAGE							
GREEN RIVER							
Stampede Pass SP	21B10	3860	5/16	-	10.4	45.0	34.8
			6/1	-	0.0	43.6	18.5
SKYKOMISH RIVER							
Stevens Pass	21B01	4070	5/14	57	25.1	80.1	46.6
			5/31	20	9.4	75.9	31.2
Stevens Pass S. Shed	21B45	3700	5/14	9	4.3	42.5	- -
			5/31	0	0.0	32.8	- -

\# Average based on 1953-67 average
\+ Snow water equivalent estimated from aerial stadia observation

USDA-SCS-PORTLAND, OREGON 1973-

APPENDIX 6
SNOW DATA TO JUNE 1, 1973

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
						Water Content (inches)	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Last Year	Average #
BAKER RIVER							
Dock Butte	21A11A	3800	5/16	87	44.0	- -	82.9
			6/1	Not Measured		77.0	66.1
Easy Pass	21A07A	5200	5/16	126	63.0	- -	108.0
			6/1	Not Measured		92.4	- -
Jasper Pass	21A06A	5400	5/16	134	67.0	- -	112.7
			6/1	Not Measured		77.0	- -
Marten Lake	21A09A	3600	5/16	110	55.0	- -	76.3
			6/1	Not Measured		90.8	65.1
Mount Blum +	21A18a	5800	5/16	126	63.0	82.5	- -
Rocky Creek	21A12A	2100	5/16	0	0.0	- -	- -
			6/1	Not Measured		0.0	- -
Schreibers Meadow	21A10A	3400	5/16	78	39.0	- -	69.8
			6/1	Not Measured		71.5	- -
S. F. Thunder Creek	21A14A	2200	5/16	0	0.0	- -	- -
Watson Lakes	21A08A	4500	5/16	Not Measured		- -	81.7
			6/1	Not Measured		79.2	68.8

Average based on 1953-67 average
\+ Snow water equivalent estimated from aerial stadia observation

USDA-SCS-PORTLAND, OREGON 1973-

Agencies Assisting with Snow Surveys

GOVERNMENT AGENCIES

Canada:

Department of Lands, Forests and Water Resources,
Water Resources Service, British Columbia

States:

Washington State Department of Ecology
Washington State Department of Natural Resources

Federal:

Department of the Army
Corps of Engineers
U. S. Department of Agriculture
Forest Service
U. S. Department of Commerce
NOAA, National Weather Service
U. S. Department of the Interior
Bonneville Power Administration
Bureau of Reclamation
Geological Survey
National Park Service

PUBLIC AND PRIVATE UTILITIES

Chelan County P.U.D.
Pacific Power and Light Company
Puget Sound Power and Light Company
Washington Water Power Company

OTHER PUBLIC AGENCIES

Okanogan Irrigation District
Wenatchee Heights Irrigation District

MUNICIPALITIES

City of Tacoma
City of Seattle

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.

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"The Conservation of Water begins with the Snow Survey"